UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,302	07/19/2001	Roberto A Macina	DEX-0180	6964

26259 7590 03/11/2003

LICATLA & TYRRELL P.C.
66 E. MAIN STREET
MARLTON, NJ 08053

EXAMINER	
HOLLERAN, ANNE L	
ART UNIT	PAPER NUMBER
1642	12

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/806,302	MACINA, ROBERTO A	
	Examiner	Art Unit	
	Anne Holleran	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) *7-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5,6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-6, in Paper No. 10, filed Nov. 1, 2002, is acknowledged. The traversal is on the ground(s) that there is no burden placed on the examiner to examine all of the claimed inventions together. This is not found persuasive because the restriction was set forth under the PCT rules for lack of unity, which do not require that the examiner demonstrate undue burden. Additionally, it is pointed out that if the restriction had been set forth as a restriction requirement, that the two groups of inventions would be classified differently, and therefore, would have necessitated different searches of the U.S. Patent databases and non-Patent literature. The necessity of different searches constitutes an undue burden. Because the restriction, as set forth under the PCT rules for lack of unity, is correct in that the two groups relate to different technical features, the restriction requirement is proper.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-10 are pending.

Claims 7-10, drawn to non-elected inventions, are withdrawn from consideration.

Claims 1-6 are examined on the merits.

3. Claims 1, 3, 5, and (6, to the extent it depends from claims 1, 3, or 5) are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the

specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 is drawn to a method of diagnosing the presence of a gynecologic cancer. Claim 3 is drawn to a method of staging a gynecologic cancer. Claim 5 is drawn to a method of monitoring a change in stage of a gynecologic cancer. As defined in the specification, a gynecologic cancer includes uterine, breast, endometrial or ovarian cancer. The methods of claims 1, 3, 5 comprise measuring levels of ESBPIII. The specification teaches that levels of ESBPIII may be levels of native protein or levels of native mRNA, where the native protein and native mRNA are encoded by a gene comprising SEQ ID NO: 1. Claim 6 is drawn to methods of measuring either SEQ ID NO: 2, or SEQ ID NO: 1, where SEQ ID NO: 2 is the protein encoded by SEQ ID NO: 1.

Factors to be considered in determining whether undue experimentation would be required to practice the full scope of the claimed inventions are: 1) quantity of experimentation necessary; 2) the amount of direction or guidance presented in the specification; 3) the presence or absence of working examples; 4) the nature of the invention; 5) the state of the prior art; 6) the relative skill of those in the art; 7) the predictability or unpredictability of the art; and 8) the breadth of the claims. See Ex parte Forman, 230 USPQ 546, BPAI, 1986.

Claims 1, 3, 5 and 6 are not enabled by the specification, because the specification fails to establish that measuring either SEQ ID NO: 1 or SEQ ID NO: 2 may be used to diagnose a gynecologic cancer, stage a gynecologic cancer or monitor a change in stage of a gynecologic cancer. The data provided by the specification consists of Table 1 and Tables 2. Table 1 shows mRNA levels in 12 normal tissues, and demonstrates that mRNA encoding ESBPIII is highly

expressed in normal uterus. Table 2 shows mRNA levels in various cancer samples and compares the levels to non-cancerous adjacent or non-cancerous samples from another patient. The data of Table 2 does not appear to demonstrate that measuring levels of ESBPIII would be diagnostic of cancer, because, for example in the endometrial samples, there is over expression in 6 out of 11 samples, under expression in 4 out of 11 and no change in 1 out of 11. One of skill in the art would not predict that this data could be used as a basis for a diagnostic test of gynecologic cancers. One of skill in the art would also be unable to predict that measuring levels of ESBPIII could be used to assess a stage or to monitor a change in stage of gynecologic cancer, because the data of Table 2 does not classify the samples by cancer stage. Thus, the specification presents an invitation to experiment to discover if an association exists between levels of ESBPIII and gynecologic cancer or a cancer stage.

Claims 1, 3, 5, and 6 are not enabled by the specification to the extent that the claims read on using measurements of protein levels as a basis for a method for diagnosis, staging or monitoring a change in cancer stage, because the data consists of mRNA measurements without any parallel detection of protein. Even if the data of Table 2 could be used to establish that measurements of mRNA levels were diagnostic of a gynecologic cancer, it is not predictable that measurements of the encoded protein could be used as a basis for a diagnostic test. Many proteins are regulated at the translational level rather than the transcriptional level. For instance, Shantz and Pegg (Int J of Biochem and Cell Biol., 1999, Vol. 31, pp. 107-122) teach that ornithine decarboxylase is highly regulated in the cell at the level of translation and that translation of ornithine decarboxylase mRNA is dependent on the secondary structure of the mRNA and the availability of eIF-4E, which mediates translation initiation. McClean and Hill

(Eur J of Cancer, 1993, vol. 29A, pp.2243-2248) teach that p-glycoprotein can be overexpressed in CHO cells following exposure to radiation, without any concomitant overexpression of the p-glycoprotein mRNA. In addition, Fu et al (EMBO Journal, 1996, Vol. 15, pp. 4392-4401) teach that levels of p53 protein expression do not correlate with levels of p53 mRNA levels in blast cells taken from patients with acute myelogenous leukemia, said patients being without mutations in the p53 gene. Thus, steady state levels of proteins is not necessarily correlated to the steady state levels of mRNA, because of the homeostatic factors affecting transcription and translation.

Because the specification appears to be merely an invitation for further research to establish a correlation between levels of ESBPIII and gynecologic cancer, stage of gynecologic cancer or change in stage of gynecologic cancer, it is unpredictable whether one of skill in the art would be able to practice the claimed invention. Further, because there is no data in the specification demonstrating a correlation between protein levels and gynecologic cancer, the specification fails to establish that measurement of ESBPIII protein levels could be the basis for the claimed methods, it is unpredictable whether one of skill in the art could practice the claimed invention to the extent that the claimed inventions comprise methods of measuring ESBPIII levels. Because the relationship between ESBPIII levels and gynecologic cancers has not been established, one of skill in the art would be required to engage in undue experimentation to practice the claimed inventions.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2, 4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Lehrer (Lehrer et al, U.S. Pub. NO.: US 2002/0034739, published March 21, 2002, filing date July 7, 1998).

Lehrer teaches methods comprising measureing levels of lipophilin c, which is a protein that has the same amino acid sequence as that of SEQ ID NO: 2, and is therefore, encoded by SEQ ID NO: 1 (see alignment). Lehrer teaches that measuring levels of lipophilin c could be used to detect metastasized cells (page 3, paragraph 32; page 1, paragraph 11). Lehrer teaches that lipophilin c is expressed in uterus, breast and ovary (page 1, paragraph 11). Thus, Lehrer teaches methods of detection of metastasis of gynecologic cancer that are the same as that claimed.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the Office should be directed to Anne Holleran, Ph.D. whose telephone number is (703) 308-8892. Examiner Holleran can normally be reached Monday through Friday, 9:30 am to 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Caputa, Ph.D. can be reached at (703) 308-3995.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at telephone number (703) 308-0196.

Anne L. Holleran
Patent Examiner
March 10, 2003